

Newest Aids for the Autoist

An Arm Rest for Closed Cars, and Other Useful Ideas

WHILE the driver of a touring car or runabout usually finds that the side of the body is low enough so that he can rest his left arm comfortably along the edge of the body beside the seat, the owner of a closed car is not so fortunate, especially when the window is partly closed in cold weather. A simple arm rest can be constructed out of sheet metal and screwed to the side of the body at a convenient height. Figs. 1 and 2 show a typical example. The galvanized or sheet iron framework is covered with upholstery fabric to match the interior trim of the car. On long drives, an arm rest of this type will add greatly to the comfort of the driver. Fairly heavy padding is desirable to promote comfort.

IN SOME makes of cars, the choker rod is fitted with a spring to pull it back into position when the knob is released. This construction is used to make it impossible for the motorist to forget to throw off the choker after the motor is warmed up, but it is a nuisance in very cold weather when it is necessary to hold the choker out for some time because the motor heats up so slowly. A piece of sheet iron bent up and slotted as shown in Fig. 3 will eliminate this trouble. The motorist will have to bend and shape the device to suit the construction of his own choker rod, and it will be a good idea to fix it so that it will hold the choker in approximately the position required for warming up rather than for starting. In order to make sure that the device will always be handy when needed, get in the habit of tucking it down at the end of the seat cushion when not in use.

WITH many of the oil-regulating types of piston rings, it is necessary to drill holes in the piston ring slots to allow the excess oil that is scraped off the cylinder walls to flow back into the crankcase by way of holes through the pistons. Great care must be taken in drilling these holes to make sure that they are spaced properly and that the drill does not cut into the side of the slot and cause the gas to leak past the piston rings. A simple way to avoid these difficulties is to make a drill jig out of a piece of one of the old piston rings. Fig. 4 shows how this

can be done. Drill the hole in the piece of old piston ring a trifle larger than ordinarily.

A SIMPLE way to make a satisfactory bumper for your car is shown in Fig. 5. It consists of two brackets made of heavy



Figs. 1 and 2. A convenient arm rest for a closed car. Fig. 2 shows its simple construction at a glance

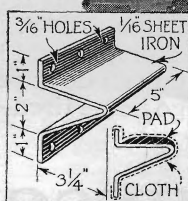


Fig. 3. A piece of sheet iron bent and slotted makes handy choker rod holder

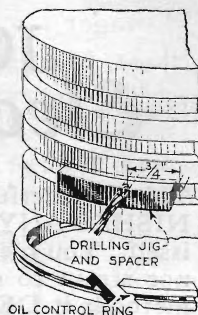
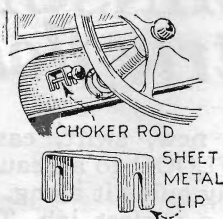


Fig. 4. To prevent cutting into piston ring slots, use a drill jig made from an old ring

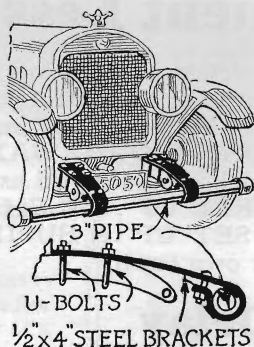


Fig. 5. A homemade bumper can be constructed from a three-inch iron pipe and pieces of heavy strap iron

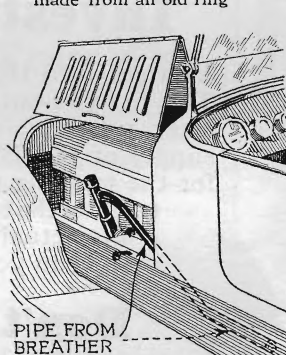


Fig. 6. A branch from the breather pipe run back under the car will divert the noxious breather fumes to rear of car

strap iron, some U-bolts, and a section of three-inch iron pipe with caps screwed on the ends. A coat of enamel can be applied to match the car or the bumper bar can be nickel plated.

ONE source of discomfort in the closed motor car that is annoying and unhealthy is the burnt gas that gets into the body from the breather pipe by way of the pedal slots and the other openings in the floor boards and dash. Even in a motor that is in perfect working order, more or less of the exploding gas leaks past the piston rings into the crankcase. The breather pipe in the crankcase allows this escaped gas to flow out of the crankcase, otherwise the accumulated pressure would cause loss of power and considerable oil leakage. One simple way to get rid of these noxious gases is to fit a tight cap over the top of the breather pipe and also fit a branch pipe that is run back far enough under the body so that the gases will be discharged to the rear of the car, as shown in Fig. 6. The size of pipe is not important, although it is not a good idea to use smaller than $\frac{1}{4}$ -inch inside diameter. Copper tubing will do very nicely.

UNDOUBTEDLY a large number of cylinder head bolts are stripped each year simply because the hole in the cylinder block into which the bolts were screwed filled up with carbon when the tops of the pistons were scraped and the extra force applied in an attempt to force the bolts up tight proved too much for the threads. It is a mighty good idea to insert the bolts loosely in the holes nearest the piston being scraped, but if carbon does get into them, it can be removed very easily by screwing a tire pump hose to a spare valve stem and blowing the carbon out of the holes. The end of the valve stem that goes inside the tube is made regularly with a small hole that will do nicely as a nozzle. The flange can be sawed off, if desired, as shown in Fig. 7. Use a pointed instrument to loosen up the carbon if it caked hard.

LINING up the hole in the spring shackle with holes in the bushing is no simple job. Frequently the

threads of the shackle bolt are battered in forcing it into place. A simple remedy is a pointed cap nut in place of the regular shackle bolt nut, which can be driven into place with a hammer. (Fig. 8). An ordinary nut can be filed this shape.

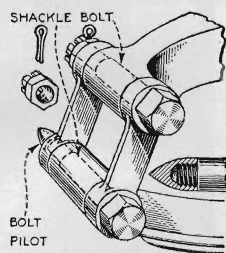


Fig. 8. A pointed cap nut simplifies task of getting spring bushing and shackle holes together for the bolt

Ten Dollars for an Idea!

CHARLES S. JONES, of Philadelphia, Pa., wins the \$10 prize this month for his homemade bumper, which is shown in Fig. 5.

Each month POPULAR SCIENCE MONTHLY awards \$10 in addition to regular space rates for the best idea for motorists. Other published contributions will be paid for at usual rates.

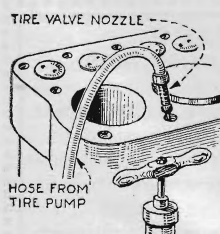


Fig. 7. A tire pump will prove useful in cleaning out bolt holes that have become filled with carbon